

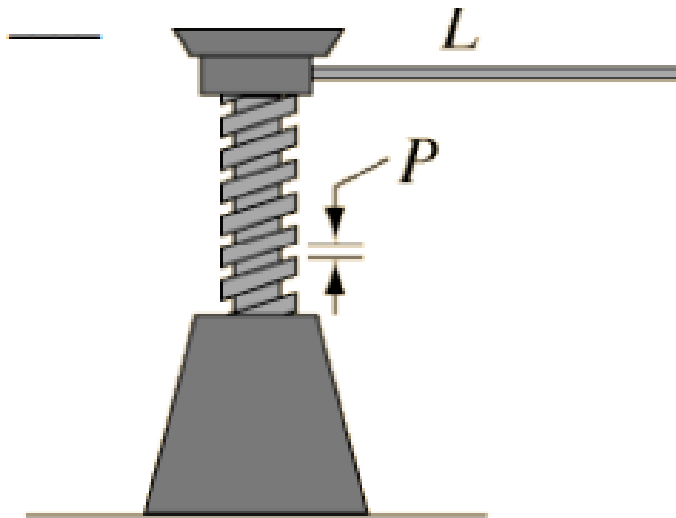
1. When was the hand axe invented?
2. Where was the waterwheel invented?
3. When and where was the rudder invented?
4. Who invented the water clock?

5. What is this, and what is it used for?



6. What is the formula for IMA of a screw?

7. What is the IMA of this screw?

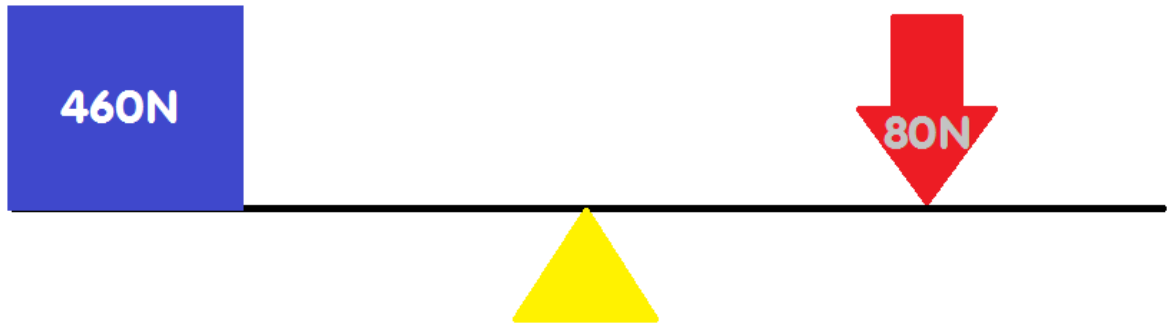


$L = 7 \text{ cm}$

$P = 20 \text{ mm}$

8. Who invented the compound pulley?

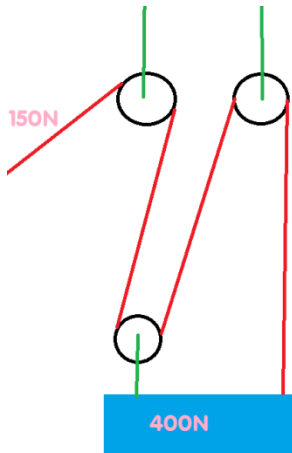
9. What is the IMA of this machine?



10. What is the efficiency for the machines below?

A. Efficiency: _____

B. Efficiency: _____



11. Identify the types of gears:



a. _____



b. _____



c. _____



d. _____

12. Newton's Laws

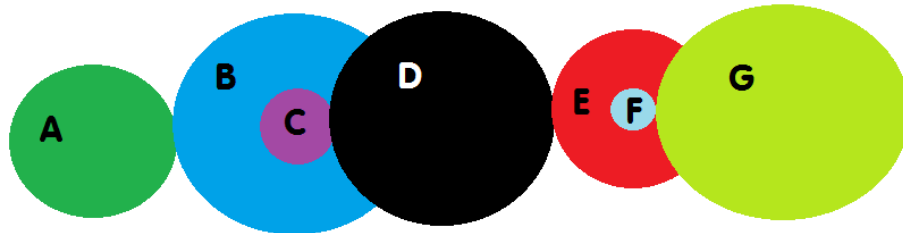
#1. _____

#2 _____

#3 _____

13. What is the ratio for this train?

A is the driver



A=30T E=30T
B=40T F=8T
C=10T G=50T
D=35T

14. Write down the SI unit for each term:

Force: _____

Distance: _____

Energy: _____

Work: _____

Power: _____

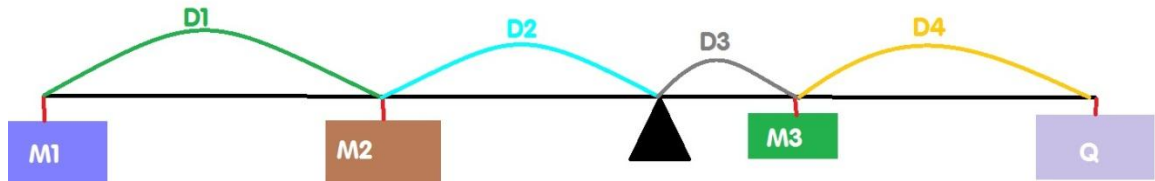
Torque: _____

15. Write the equation to get AMA from efficiency and IMA.

16. What are the 2 equations for efficiency?

17. Do!

What weight, Q , is required to balance the lever shown below (not drawn to scale):



If:

$D1=20.0\text{cm}$ $M1=50.2\text{kg}$

$D2=5.0\text{cm}$ $M2=44.2\text{kg}$

$D3=7.28\text{cm}$ $M3=100.0\text{ kg}$

$D4=2.22\text{cm}$

$Q=$ _____

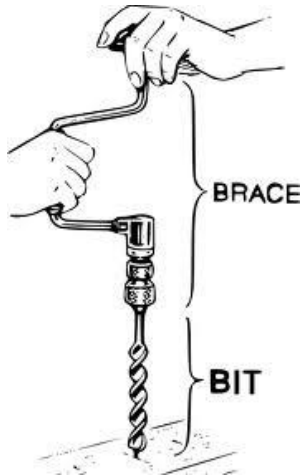
18. Identify the type of simple machines. List all simple machines in picture. If lever, identify the class (1st, 2nd, or 3rd).



a. _____



b. _____

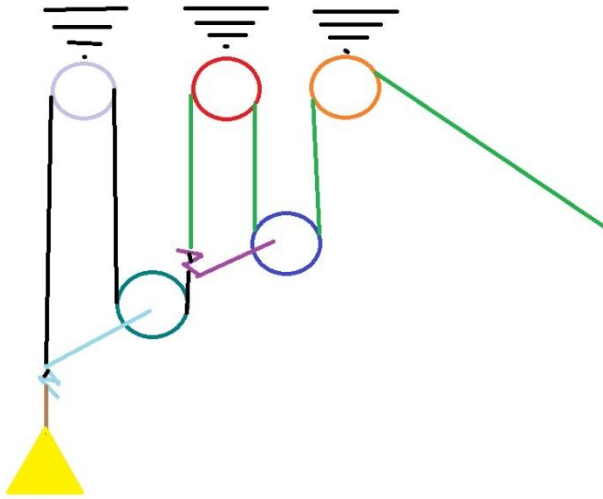


c. _____

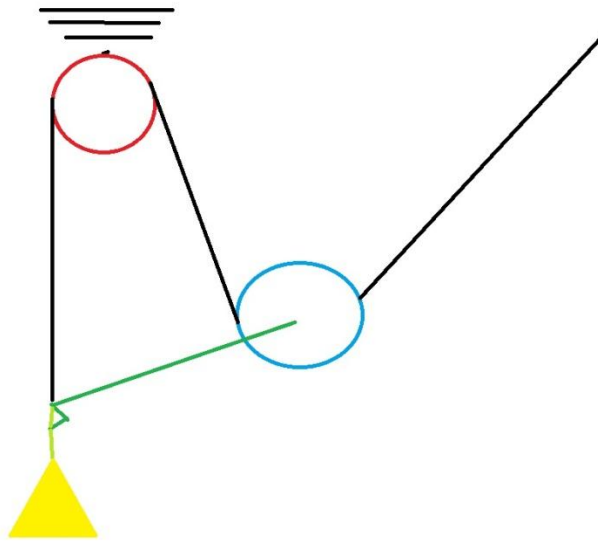


d. _____

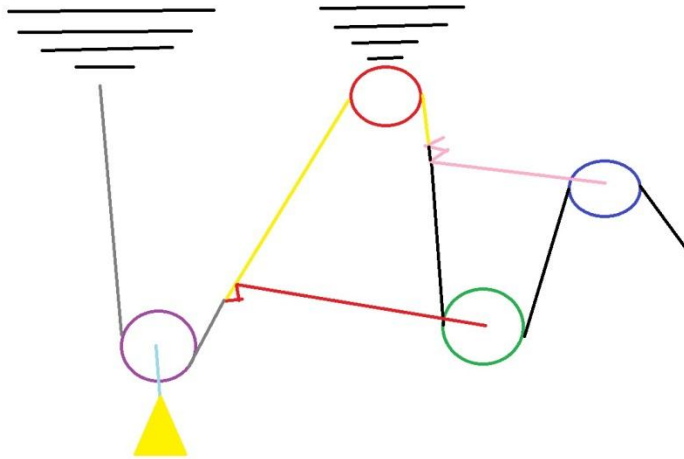
19. Write down IMA in blank:



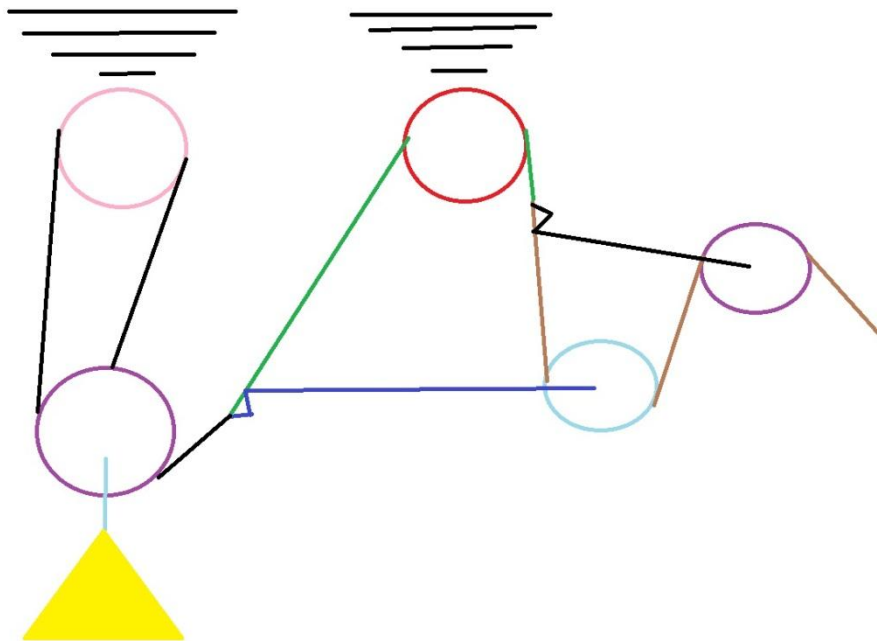
a. _____



b. _____



c. _____



d. _____

20. Where, when, and who invented the chainsaw?

21. What was invented in America, by William Schopp, in 1932?

22. Where was the slingshot invented?

23. Who invented the lever?

24. Who invented the pulley?

25. Who invented the wheel and axle?

26. Who invented the screw?

27. What is the "Law of Conservation of Energy"?

28. What is the formula for a watt?

29. How can you find out how many teeth the ring gear on a planetary gear has without counting?

30. Circle one:

a. With gears, Smaller driver means IMA (<,>) 1.

b. A joule = (Ncm, (kg*m²)/(sec²))

c. 1 kg=9.81N, SO 1N= (1.02kg, 0.102kg)